

## CLAIMS

What is claimed is:

1. A positioning system comprising:
  - a plurality of transponder modules each located at a known location for receiving an electromagnetic signal and emitting a light signal;
  - at least one transceiver module for emitting said electromagnetic signal and receiving said light signal; and
  - means for processing said received light signal to determine a position of said at least one transceiver module.
2. The positioning system of claim 1 wherein said at least one transceiver module is affixed to a movable platform.
3. The positioning system of claim 2 wherein said movable platform is an elevator.
4. The positioning system of claim 1 wherein said electromagnetic signal is an RF signal.
5. The positioning system of claim 1 wherein each of said transponder modules comprises an array of lights selected from the group consisting of a one-dimensional array and a two-dimensional array.
6. The positioning system of claim 5 wherein said array of lights comprises an array of light emitting diodes (LEDs).
7. An apparatus for measuring a position of a movable platform comprising:
  - a plurality of transponder modules each comprising:
    - an RF receiver for receiving an RF signal; and
    - an array of lights for emitting a light signal;

at least one transceiver module affixed to said movable platform comprising:

- an RF transmitter for transmitting a coded RF signal;
- a camera for receiving said light signal; and
- a processing unit for identifying a position of one of said plurality of transponders from said received light signal and computing a position of said movable platform.

8. A method for measuring a position of a moveable platform comprising the steps of:

affixing at least one transceiver module to said moveable platform said transceiver module comprising:

- an RF transmitter for transmitting a coded RF signal;
- a camera for receiving a light signal; and
- a processing unit for identifying a position of said received light signal and computing a position of said movable platform;

disposing a plurality of transponder modules each at a fixed position said transponder modules comprising:

- an RF receiver for receiving a coded RF signal; and
- an array of lights for emitting a light signal;

emitting from said at least one transceiver module a coded RF signal for receipt by one of said plurality of transponder modules;

receiving said coded RF signal by one of said plurality of said transponder modules and emitting a light signal in response thereto;

receiving said emitted light signal with said camera

device of said at least one transceiver module; and  
computing a position of said transceiver module from said received light signal.

9. The method of claim 8 wherein said receiving said coded RF signal comprises the additional steps of:
- decoding said coded RF signal to obtain a code;
  - comparing said code to a unique ID; and
  - activating said array of lights when said unique ID is the same as said code.
10. The method of claim 8 wherein said receiving said coded RF signal comprises the additional steps of:
- decoding said coded RF signal to obtain a universal registration code; and
  - activating said array of lights.
11. The method of claim 10 wherein said activating said array of lights comprises activating said array of lights to transmit a unique ID as a binary code.